

the Examiner's rejection of claims 1-5 and requests reconsideration of the pending claims in view of the foregoing amendments and the following remarks.

II. Clarification of Domestic Priority Claim.

Applicant's declaration mistakenly failed to indicate the priority claim identified on p. 1 of the specification. Please note that the priority claim under 35 U.S.C. 119(e) and 120, as claimed on p. 1 of the specification is correct.

III. The Rejection of Claims 1-5 Under 35 U.S.C. § 103(a) Should Be Withdrawn.

In the June 12, 2002 Office Action, the Examiner rejected claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over Tokuhiro in view of deVries. Applicant respectfully traverses the Examiner's rejection of claims 1-5 and requests that the rejection be withdrawn.

A. Applicant's Invention.

Independent claims 1 and 5, as amended and as originally filed, are directed toward a vapor delivery system and method for neutralizing malodors in a malodorous area located outside of the vapor delivery system. As pointed out in independent claims 1 and 5, a stream of ambient air from the atmosphere enters the air intake port (12) of the vaporization chamber (16). An outlet port is positioned substantially diametrically opposed to the intake port in the vaporization chamber. This arrangement in Applicant's invention allows a stream of air to pass directly through the vaporization chamber by exiting the chamber directly across from the entry to the chamber, and thereby assists in encouraging a large volume of air to pass through the system, e.g., between 600 and 2000 cubic feet per minute (see page 15 of the specification). A nozzle (22) delivers a liquid deodorant into the vaporization chamber. The stream of ambient air travels through the vaporization chamber to create a stream of treated ambient air. The stream of

treated ambient air is then released from the vaporization chamber to a distribution system having at least one vapor release port (26) via air duct (17). The at least one vapor release port releases the stream of treated ambient air to the malodorous area located outside of the vaporization chamber.

B. Tokuhiro

Tokuhiro discloses a fragrant air supplying method and system. As shown in Fig. 2, the system includes an evaporator (17) having an air nozzle (37) and a fragrance nozzle (35) positioned therein. A blower (16) provides compressed air to the evaporator through the air nozzle. The blower also provides air to an extension (28) through a pipe (39). The air provided to the vaporizer is designed to collide with an air buffer (38). The air provided through the pipe is delivered to an impactor (18) after entering the extension (28). After passing through the impactor, fragrant air passes through a connection pipe (29) to an air duct (12) that distributes the air to a room.

Tokuhiro does not disclose all the elements of independent claims 1 or 5. In particular, Tokuhiro does not disclose a vaporization chamber having an "intake port positioned on [a] sidewall substantially diametrically opposed to the outlet port" of the vaporization chamber as required in claims 1 and 5. By contrast, Tokuhiro discloses an apparatus in which the air delivered to the vaporizer is directed to an air buffer or a sidewall of the vaporizer, impeding the flow of the air, causing the air to thoroughly mix within the vaporizer, and limiting the air flow rate through the system. Accordingly, Tokuhiro does not disclose all of the elements of claims 1 and 5.

C. deVries

deVries discloses a mist scrubbing system for removal of odorous compounds from waste gas streams (see col. 3, lines 23-48). Accordingly, deVries is clearly directed to a typical prior art scrubber that treats polluted air in an exhaust system.

The Examiner has apparently cited deVries for the sole reason of providing a system where a nozzle is directed to the chamber floor. However, deVries fails to teach the limitations set forth in independent claims 1 and 5. For example, deVries does not disclose a vaporization chamber having an "intake port positioned on [a] sidewall substantially diametrically opposed to the outlet port" of the vaporization chamber as required in claims 1 and 5.

D. Tokuhiro in View of deVries

The Examiner has failed to establish a prima facie case that claims 1 and 5 are unpatentable under 35 U.S.C. § 103(a) as obvious to Tokuhiro in view of deVries. In order to establish a prima facie case of obviousness, the Examiner must meet at least three basic criteria. MPEP §2143. First, there must be some suggestion or motivation in the art to modify or combine the references. Second, there must be a reasonable expectation of success. Third, the prior art references, when combined, must teach or suggest all the claim limitations. The Examiner has failed to establish these criteria.

First, there is no apparent suggestion or motivation in the references themselves or in the art to modify the references or combine reference teachings. When a motivation to combine the teachings of a reference is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper. MPEP § 2142. In the present case, the Examiner has failed to explain why the combination of references is proper and, thus, a prima facie case of obviousness has not been established.

No suggestion or motivation to combine the references exists because the proposed modification would change the principle of operation of the prior art. MPEP § 2143.01. In the present case, the Examiner proposes to combine the delivery system of Tokuhiro with the exhaust system of deVries. This would mean that the air entered into the chamber of Tokuhiro would be an exhaust gas as cited in deVries. Of course, Tokuhiro involves a fragrant air delivery system and the introduction of exhaust gas into the system would change the principle of

operation of Tokuhiko. Thus, because there is no suggestion or motivation to modify or combine the references, the Examiner has failed to establish a prima facie case of obviousness.

Second, there is no reasonable expectation of success if the two references are combined. As discussed in the previous paragraph, combining the two references would change the principle of operation of the prior art. Accordingly, any suggestion to combine Tokuhiko and deVries would not be met by a reasonable expectation of success.

Third, neither Tokuhiko nor deVries, alone or in combination teach or suggest all of the claim limitations. For example, neither Tokuhiko nor deVries discloses a vaporization chamber having an "intake port positioned on [a] sidewall substantially diametrically opposed to the outlet port" of the vaporization chamber as required in claims 1 and 5.

Because, the Examiner has failed to establish a prima facie case that claims 1 and 5 are unpatentable under 35 U.S.C. § 103(a), the Examiner's rejection of claims 1 and 5 should be withdrawn. Additionally, because claims 2-4 depend from and incorporate all of the limitations of independent claim 1, as amended, it is respectfully submitted that the Examiner's rejection of these claims should also be withdrawn.

IV. Conclusion

For all of the foregoing reasons, it is respectfully submitted that Applicant has made a patentable contribution to the art which clearly distinguishes over and is patentable over the cited art. Favorable reconsideration and allowance of this application is therefore respectfully requested.

In the event Applicant has inadvertently overlooked the need for an extension or payment of an additional fee, Applicant conditionally petitions therefore, and authorizes any deficiency to be charged to deposit account number 09-0007.

Sincerely,



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Enclosures: Return Postcard
Exhibit A-Version of Claims with
Markings to Show Changes Made

cc: Keith D. Romack

EXHIBIT A

VERSION OF CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

- 1 (Once Amended) A vapor delivery system for neutralizing malodors in a malodorous area, the vapor delivery system comprising:
 - a. a vaporization chamber having a sidewall positioned between a chamber ceiling and a chamber floor, the sidewall including an intake port positioned on the sidewall substantially diametrically opposed to an outlet port also positioned on the sidewall, the intake port and outlet port allowing the stream of air to **[a stream of air to]** enter said vaporization chamber through said intake port and exit said vaporization chamber through said outlet port, said vaporization chamber otherwise being enclosed;
 - b. at least one nozzle having a spray tip directed toward said chamber floor, said at least one nozzle receiving a stream of **[pressurized air and a stream of]** liquid to allow said nozzle to deliver an atomized spray of liquid into said vaporization chamber, said atomized liquid being vaporized in the vaporization chamber and incorporated in said stream of air to create a stream of treated air; and
 - c. a distribution system communicating with said outlet port for delivering said stream of treated air to the malodorous area, said distribution system having at least one vapor release port for releasing said treated air stream to the malodorous area.
- 2 The vapor delivery system of claim 1 wherein said air intake port communicates with an air filter for removing air bound particles from said air stream before entering said vaporization chamber.

- 3 The vapor delivery system of claim 1 wherein said spray tip of said nozzle is positioned in said chamber ceiling.
- 4 The vapor delivery system of claim 1 further comprising a blower connected between said chamber outlet port and said distribution system, said blower operable to draw said stream of air into said air intake port and push said stream of treated air through said distribution system.
- 5 (Once Amended) A method of neutralizing malodors comprising the steps of:
- a. providing an enclosed vaporization chamber having a chamber wall positioned between a chamber ceiling and a chamber floor, the chamber wall having an intake port and a diametrically opposed outlet port;
 - b. drawing a stream of [gas] **ambient air not received from an exhaust stream** through said intake port **and** into said vaporization chamber **such that the stream of ambient air travels through the vaporization chamber from the intake port to the diametrically opposed outlet port;**
 - c. spraying an atomized liquid deodorant into said vaporization chamber through a nozzle **having a spray tip**[, said nozzle including a tip that sprays said liquid deodorant toward said chamber floor];
 - d. bringing said stream of [gas] **ambient air** into contact with said atomized liquid deodorant in said vaporization chamber so that said liquid vaporizes into said [gas] **stream of ambient air** to create a stream of treated [gas] **air leaving the vaporization chamber;** and
 - e. delivering said stream of treated **air** [gas] through said outlet port to a distribution system having at least one vapor release port for releasing said **[treated air] stream of treated air** from said distribution system.

- 6 (New) The method of claim 5 wherein the spray tip of the nozzle sprays liquid deodorant toward said chamber floor.
- 7 (New) The method of claim 6 wherein the spray tip of the nozzle is positioned above the intake port and the outlet port in the vaporization chamber.
- 8 (New) The method of claim 7 wherein the spray tip of the nozzle sprays liquid deodorant from the nozzle in a direction substantially perpendicular to the stream of ambient air traveling through vaporization chamber from the intake port to the diametrically opposed outlet port.
- 9 (New) The method of claim 5 wherein the spray tip of the nozzle sprays liquid deodorant toward said chamber ceiling.
- 10 (New) The method of claim 9 wherein the spray tip of the nozzle is positioned above the intake port and the outlet port in the vaporization chamber.
- 11 (New) The method of claim 10 wherein the spray tip of the nozzle sprays liquid deodorant from the nozzle in a direction substantially perpendicular to the stream of ambient air traveling through vaporization chamber from the intake port to the diametrically opposed outlet port.
- 12 (New) The vapor delivery system of claim 1 wherein the spray tip is arranged and disposed to deliver the atomized spray of liquid in a direction substantially perpendicular to the stream of air traveling between the inlet port and the outlet port in the vaporization chamber.
- 13 (New) The vapor delivery system of claim 12 wherein the spray tip is arranged and disposed above the inlet port and the outlet port in the vaporization chamber.
- 14 (New) A vapor delivery system for neutralizing malodors in a malodorous area, the vapor delivery system comprising:

- a. a vaporization chamber for vaporizing a liquid in a stream of ambient air before delivery of the liquid to the malodorous area located outside of the vaporization chamber, the vaporization chamber having a sidewall positioned between a chamber ceiling and a chamber floor, the sidewall including an intake port positioned on the sidewall substantially diametrically opposed to an outlet port also positioned on the sidewall, the intake port positioned to receive the stream of ambient air not received from an exhaust stream, the intake port and outlet port allowing the stream of air to enter said vaporization chamber through said intake port and exit said vaporization chamber through said outlet port, said vaporization chamber otherwise being enclosed;
 - b. at least one nozzle having a spray tip directed toward said chamber ceiling, said at least one nozzle receiving a stream of liquid to allow said nozzle to deliver an atomized spray of liquid into said vaporization chamber, said atomized liquid being vaporized in the vaporization chamber and incorporated in said stream of air to create a stream of treated air; and
 - c. a distribution system communicating with said outlet port for delivering said stream of treated air to the malodorous area, said distribution system having at least one vapor release port for releasing said treated air stream to the malodorous area.
- 15 (New) The vapor delivery system of claim 14 wherein said air intake port communicates with an air filter for removing air bound particles from said air stream before entering said vaporization chamber.
- 16 (New) The vapor delivery system of claim 14 further comprising a blower connected between said chamber outlet port and said distribution system, said blower operable to

draw said stream of air into said air intake port and push said stream of treated air through said distribution system.

17 (New) The vapor delivery system of claim 14 wherein the spray tip is arranged and disposed to deliver the atomized spray of liquid in a direction substantially perpendicular to the stream of air traveling between the inlet port and the outlet port in the vaporization chamber.

18 (New) The vapor delivery system of claim 17 wherein the spray tip is arranged and disposed above the inlet port and the outlet port in the vaporization chamber.

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